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Project

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TITLE

FOREST INSECT DETECTION SURVEY
CLEARWATER NATIONAL FOREST
1950

by
Forest Insect Laboratory
Coeur d'Alene, Idaho

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MISSOULA
FOREST INSECT
LABORATORY

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Forest insect surveys conducted on the Clearwater National Forest in 1949 disclosed several white pine areas with large numbers of windthrown trees. These trees were either blown over or weighted down by heavy snows during the winter of 1948-1949. Windthrown white pine are nearly always attacked by the mountain pine beetle and often contribute to the building of destructive outbreaks of this insect. As the white pine windfalls within these areas were quite heavily infested, they were of sufficient importance to warrant recommendations for control. Unfortunately funds were not made available for this work.

To obtain current information as to the status of these infestations, the areas were resurveyed during the latter part of August and early September. This project was under the direct supervision of Charles J. Johnson of this laboratory who also conducted the 1949 survey. The data obtained by this survey is shown in comparison with that of 1949. The infested trees and windfalls are western white pine, and the attacking insect is the mountain pine beetle (Dendroctonus monticolae Hopk.).

<u>Orogrande Unit</u>	1950	1949
Total acres	14,000	13,400
Acres of sample strip	468	327
Percent of area covered by sample	3.31	2.44
Infested trees on sample strip	96	48
Number of infested trees per acre	.207	.147
Total infested trees for unit	2,900	1,970

Of the 1950 attacked trees 2,030 (70%) of the 2,900 are windfalls. In 1949 there were 1,560 windfalls and 410 white pine trees infested with the mountain pine beetle. At that time the windfalls were fairly well concentrated in three small areas of some 600 acres. This year the infested material is scattered throughout the eastern portion of the unit. The actual area of infestation can be reduced from 14,000 to some 10,000 acres.

The 1950 data show a 53 percent increase in the number of infested trees and windfalls for this area. This is believed to be a conservative figure, as at the time of the survey a few 1949 attacked windfalls still held some unemerged beetle broods. These few trees were found on heavily shaded north slopes. This late emergence could result in some additional attacks, but they are not expected to be in any great number.

<u>Tepes Creek Unit</u>	1950	1949
Total acres	1,090	1,090
Acres of sample strip	41	26
Percent of area covered by sample	3.76	2.40
Infested trees on sample strip	10	12
Number of infested trees per acre	.244	.46
Total infested trees for unit	266	496

The 1950 infested white pine are shown as occurring in the western half of this unit. Numerous logging roads are present and all attacked trees recorded on sample strip are adjacent to them. These infested trees were all recorded as having been physically injured by logging. A number of pitched out attacks were recorded. Of the 266 infested trees estimated for this unit 106 of them were windfalls. Although this year's data show a 46.37 percent decrease in the total number of infested trees, the number of infested standing trees increased from 43 to 160.

<u>Dead Horse Unit</u>	1950	1949
Total acres	1,700	1,700
Acres of sample strip	83	27
Percent of area covered by sample	4.88	1.6
Infested trees on sample strip	17	2
Number of infested trees per acre	.205	.070
Total infested trees for unit	349	119

300 to 700

Data obtained from this year's survey indicate a marked increase in the severity of the infestation which amounts to 193 percent. Last year the infestation in this unit was confined entirely to white pine windfalls. This year the infestation has spread into standing trees with only 50 percent of the infested material being windfalls. No concentrated areas of windfalls were recorded by the survey. A few small groups of infested standing trees were recorded, however, for the most part the infestation is distributed throughout the entire unit.

Control

470 c

Sheep Mountain Unit

	1950	1949
Total acres	1,700	3,400
Acres of sample strip	106	70
Percent of unit covered by sample	6.24	2.06
Infested trees on sample strip	62	85
Number of infested trees per acre	.58	1.21
Total infested trees for unit	995	1,400

The total acreage of the Sheep Mountain Unit (3,400) is shown for the 1949 data. The 1950 acreage figure depicts that portion of the unit which apparently contains the current season's infestation. If the 1950 survey data were applied to the total acreage of the unit, the number of infested trees would be doubled. This would be a greatly inflated figure.

In 1949 the mountain pine beetle attacks were confined almost entirely to white pine windfalls. Data obtained at that time showed an infestation for the unit of 100 standing trees and 1,300 windfalls. This season's data show no infested windfalls recorded on sample strip. This indicates that as feared the infestation has moved from windfalls in 1949, to standing trees in 1950. The infestation now occurs in large groups of infested trees, which are all in areas of 1949 infested windfalls. As many as 31 trees were recorded in one group.

Rock Creek Blow Down

A 1949-1950 blow down area at the head of Rock Creek was called to Mr. Johnson's attention by Forest Officers. An extensive examination was made of this area which Mr. Johnson places as lying to the south and east of Mush Peak. It apparently covers most of Section 36, T. 40N., R. 8E., Section 1, T. 39N., R. 8E., and Section 6, T. 39N., R. 9E. Although an attempt was made to establish the boundaries of this damaged area no assurance can be given as to the accuracy of the lines as drawn.

Mr. Johnson records a total of 94 white pine, 1949-1950 windfalls, all of which have been attacked this year by the mountain pine beetle. No infested standing white pine trees were recorded within the blow down area, although along the Springs Creek trail a few (4) were recorded.

There are also large numbers of spruce windfalls, all of which are infested with the Engelmann spruce beetle. It is estimated that there are fully twice as many spruce windfalls as there are white pine.

We do not have Forest Service information as to the volume of these two tree species that have been blown over in this area. Without these data we are unable to estimate the number of infested trees.

4000 white Pine windfalls

RECOMMENDATIONS

Summary of Survey Data

	1950 Attacks		1949 Attacks	
	Windfalls	Trees	Windfalls	Trees
Orogrande	~~1,594~~ 2,030	~~670~~ 870	1,560	410
	2,900		1,970	
Dead Horse Creek	174	174	0	119
	349		119	
Tepee Creek Unit	106	160	453	43
	266		496	
Sheep Mountain	0	995	1,300	100
	995		1,400	
	2,310	2,199	3,313	672
	4,509	20	3,985	
	3,851			
Increase in infested trees and windfalls			13.35%	
Increase in number of infested standing trees			227.82%	
Decrease in number of infested windfalls			30.15%	

From the preceding tabulation it will be seen that serious mountain pine beetle infestations have developed from the 1948-1949 windthrown white pine in these four areas. Even in Tepee Creek where a reduction in infested material occurred, there was a 272 percent increase in the number of infested standing trees. It is believed that the data as submitted is conservative. At the time of the survey some new attacks, less than one week old, were recorded in three of the units. This record, with the fact that unemerged brood in 1949 attacked windfalls was recorded, gives evidence that further attacks are a possibility. We always expect some September attacks from emerging parent adults. However, these beetles usually fill in at the tops of trees already infested. We have some sample strips that will be rerun in late September in an attempt to obtain some information on these late attacks.

The Rock Creek Blow Down area presents a serious problem, which will be increased many times when data from all known blow down areas are available. Although we fear and fully recognize the potentials of white pine windfalls, spruce blow downs are even of greater importance. Windthrown spruce contribute materially to the building of destructive Engelmann spruce beetle epidemics.

Obviously the infested white pine and spruce within this area should be treated. The potentials of such situations is quite well depicted by what has happened in the four white pine areas discussed in this report. How far we can go in conducting control in the blow down areas of the region is a matter for subsequent decision.

Forest Insect Survey
Clearwater National Forest
1950

1. Orogrande
2. Sheen Mt.
3. Teepee Creek
4. Deadhorse
5. Rock Creek Blowdown

